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Further notes on the orchids of central New York *

HOMER DOLIVER HOUSE

A previous list of the Orchidaceae of central New York † was based mainly upon herbarium specimens examined in the herbarium of Columbia University, the New York Botanical Garden, a lesser number in my own collection and certain records in Paine's catalogue of Oneida County plants (1865). It was evident at the time that the record was a very incomplete one and that several changes in nomenclature were necessary. The purpose of the present paper is to augment the known localities for some of the rarer orchids of that region, the result of further collection and study of specimens in various herbaria, together with authentic reports not previously given, and to make some necessary changes in their nomenclature. In the citations of specimens, N designates the National herbarium; C, Columbia University; Y, New York Botanical Garden; S, Syracuse University; and H, the author's herbarium. Species starred are new to the region and were not given in my previous list.‡

CRIOSANTHES Raf. Am. Monthly Mag. 268. 1818.

Journ. de Phys. 89: 102. 1819.

This generic segregate of *Cypripedium* was recognized also by Beck in 1833, and Pfitzer recognizes it as a section of *Cypripedium*. Its evident characters are the separate sepals and the prolongation of the lip at the apex into a long blunt spur, which is distorted at the upper end, giving rise to the common name, ram's-head lady's-slipper.

Arietinum Beck, Bot. N. & Middle U. S. 352. 1833.

Arietina, Sect. of *Cypripedium*, Pfitz.; Engl. & Prantl, Pflanzenfam.

2⁶: 83. 1888.

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† Torrey 3: 49. Ap 1903.

‡ Since the present paper was written, Dr. J. V. Haberer has published in Rhodora (May and June, 1905) some notes on "Plants of Oneida County, New York, and Vicinity," in which records of the following orchids occur: *Achroanthus unifolia*, *Blephariglossis grandiflora*, *Corallorhiza multiflora flavida*, *Peramium tessellatum*, and *Peramium ophioides*.

***Criosanthes arietina* (R. Br.)**

Cypripedium arietinum R. Br.; Ait. Hort Kew. ed. 2, 5: 222. 1813.

Criosanthes borealis Raf. Am. Monthly Mag. 268. 1818.

Arietinum americanum Beck. Bot. N. & Middle U. S. 352. 1833.

Range: Quebec to Ontario, New York and Minnesota.

ONONDAGA CO.: "Near Syracuse," *Beauchamp*. Cicero Swamp, House, 1902, (H). HERKIMER Co., "Mud lake near Jordanville," *Haberer*.

CYPRIPEDIUM L.

Considerable interest attaches to the group of yellow lady's-slippers on account of Dr. P. A. Rydberg's article * which brings up the question as to whether there are three species of yellow-flowered *Cypripediums* instead of two, as commonly given in recent manuals. An examination of fresh specimens during two seasons since, leads me to believe, "we do have three species of yellow lady's-slippers, one large and one small-flowered, both with vertically flattened lip, and a third . . . one with laterally flattened lip." I must, however, differ somewhat from the accepted treatment of their nomenclature.

CYPRIPEDIUM PUBESCENS Willd. Sp. Pl. 4: 143. 1805. Hortus Berolinensis 1: pl. 13.

C. bulbosum Mill. Gard. Dict., ed. 8, no. 2. 1768. Not L. 1753.

C. Calceolus Walt. Fl. Car. 222. 1788. Michx. Fl. Bor.-Am. 2: 161. 1803. Not L. 1753.

C. luteum Ait; Raf. Med. Fl. 140. pl. 30. 1828.

C. hirsutum Britton & Brown, Illus. Flora; Britton's Manual and other recent reports, but not Miller, 1768.

This is the common large yellow lady's-slipper, and would bear Miller's name, were that name not antedated by *C. bulbosum* of Linnaeus.

CYPRIPEDIUM PARVIFLORUM Salisb. Trans. Linn. Soc. 1: 77. pl. 2. f. 2. 1791. Also of Gray's Manual, but not of Britton's Manual.

Differs from *C. pubescens*, apparently in size only, and is usually found in more swampy situations than *C. pubescens*. Conservative treatment may reduce this to a variety of *pubescens*.

* Torrey 2: 84. Je 1902.

- * *CYPRIPEDIUM FLAVESCENS* DC.; Redouté, Lil. 1: *pl.* 20. 1802.
C. parviflorum Sims, Bot. Mag. 23: 911. 1806.—Britton, Manual 291. 1901. Not Salisb.
C. pubescens Sweet, Brit. Flow. Gard. 1: *pl.* 71. 1823.—A. Gray, Manual. Not Willd.

Distribution: Quebec and New England to Montana and Washington, south in the mountains to West Virginia.

A species of shady ravines and moist rich woodlands, of decidedly more boreal distribution than the last, which seems to follow quite closely the range of *C. pubescens* Willd. In addition to the laterally flattened (the greatest expansion being vertical) lip, the lip is often subglobose and conspicuously ascending, and the leaves narrower and more ascending, than in the other yellow-flowered species of our flora.

- CYPRIPEDIUM HIRSUTUM* Miller, Gard. Dict. ed. 8, no. 3. 1768
C. reginae Walt. Fl. Car. 222. 1788.—Britton & Brown, Illus. Fl. 1: 458. 1896.—Britton, Manual, 291. 1901.—Small, Fl. Southeastern U. S. 311. 1903.
C. album Ait. Hort. Kew. 3: 303. 1789.
C. spectabile Salisb. Trans. Linn. Soc. 1: 78. *pl.* 3. *f.* 3. 1791.
 Also of Gray's Manual.
C. canadense Michx. Fl. Bor.-Am. 2: 161. 1803.

The error of crediting Miller's name *C. hirsutum*, to a yellow-flowered species has been quite prevalent in recent publications. Fox (Bull. Geol. Nat. Hist. Surv. Minn. 9: 423-449. 1895) uses Miller's name for a yellow-flowered species, but whether the mistake originated with his use of the name is not certain, as he gives no authority for his usage.

In support of the present usage of the name *hirsutum*, I would quote Miller himself: "The third sort [*C. hirsutum*] grows naturally in America where the inhabitants call it the moccasin flower. This rises a foot and a half high. The leaves are of an oblong oval form and are deeply veined. The flower is large, of a reddish brown color, marked with a few purple veins." The height of the plant described precludes its being referred to *C. acaule* Ait. The name moccasin-flower was a name applied to both species and is still so used by country folk, but restricted in recent books to *C. acaule*.

FISSIPES ACAULE (Ait.) Small

Cypripedium acaule Ait.

A form with pure white flowers is reported from Beaver Lake, Onondaga Co., by *Rev. W. M. Beauchamp*.

PERULARIA FLAVA (L.) Rydb.

Apparently not so rare as at first reported. "Frequent in marshes," *Beauchamp*. Near Syracuse, *F. C. Straub*, 1891 (N). Near Oneida, *House*, 1903 (H).

COELOGLOSSUM BRACTEATUM (Willd.) Parl.

ONONDAGA Co. : "Baldwinsville," *Beauchamp*. MADISON Co. : Cazenovia, *M. C. Conner* (S). HERKIMER Co. : *Frank Tweedy*, 1879 (N) ; near Newport, *House*, 1901 (H).

LYSIAS ORBICULATA (Pursh) Rydb.

ONONDAGA Co. : "Skaneateles Lake," *Beauchamp* ; Jamesville, *House*, 1903 (H). ONEIDA Co. : Lee, *Brower* (C) ; Sylvan Beach, *House*, 1903 (H).

BLEPHARIGLOTTIS BLEPHARIGLOTTIS (Willd.) Rydb.

ONONDAGA Co. : "Abundant at Beaver Lake," *Beauchamp*. HERKIMER Co. : "Frankfort Hill," *Haberer*.

MADISON Co. : Fiddler's Green, *House*, 1905, no. 1246 (H).

* BLEPHARIGLOTTIS GRANDIFLORA (Bigel.) Rydb.

MADISON Co. : Oneida, *House*, 1903 (H). ONEIDA Co. : swamps west of Fort Bull, Rome, *Paine* (C). HERKIMER Co. : "Northern part of the county," *Calverly* in *Paine's Cat.* (1865). (*Habenaria fimbriata* A. Gray.)

BLEPHARIGLOTTIS LEUCOPHAEA (Nutt.) Rydb.

ONONDAGA Co. : Marshy meadows near Carpenter's Pond, Fabius, *House*, 1903 (H).

* LIMNORCHIS MAJOR (Lange) Rydb.

This species must be credited to central New York with some doubt ; there is a specimen in the Columbia University herbarium, collected by Dr. Asa Gray, locality not indicated, but probably in central New York.

LIMNORCHIS DILATATA LINEARIFOLIA Rydb.

MADISON Co. : Near Chittenango, *House*, 1903 (H).

* LIMNORCHIS MEDIA Rydb.

HERKIMER Co. : Jordanville, *Peck* (Ann. Rep. 20. 1902).

LYSIELLA OBTUSATA (Pursh) Rydb.

ONONDAGA Co. : Carpenter's Pond, Fabius, *House*, 1903 (H).

* PERAMIUM OPHIOIDES (Fernald) Rydb.

ONONDAGA Co. : Green Pond near Jamesville, *House*, 1903 (H).

LIMODORUM TUBEROSUM L.

Forms with pure white flowers reported from Cicero Swamp, Onondaga Co., by Mrs. M. O. Rust.

APLECTRUM

As indicated by Dr. J. H. Barnhart (*Torrey* 4: 119-121. Au 1904) the *Aplectrum spicatum* of B.S.P. and of Britton's Manual, should be restored to the former name *A. hyemale* (Willd.) Nutt., and *A. spicatum pallidum* House, becomes *A. hyemale pallidum* (House) Barnhart.

ISOTRIA VERTICILLATA (Willd.) Raf.

ONEIDA Co. : Rome, *J. A. Paine, Jr.* (S). ONONDAGA Co. : Lysander, *O. E. Pearce*, 1885 (N); Kirkville, *House*, 1902 (H). OSWEGO Co. : *C. S. Sheldon*, 1879 (N). MADISON Co. : Fiddler's Green, *House*, 1905, no. 1248 (H).

POGONIA OPHIOGLOSSOIDES (L.) Ker

ONEIDA Co. : Rome, *Bingham* (S). OSWEGO Co. : North Hannibal, *O. E. Pearce*, 1883 (N). ONONDAGA Co. : Canandaigua, *Mrs. Antisell*, 1881 (N).

TRIPHORA TRIANTHOPHORA (Swartz) Rydb.

ONONDAGA Co. : Kirkville, *Underwood* (S); "Beaver Lake," *Beauchamp*; *Mrs. M. O. Rust*, 1879 (N).

ARETHUSA BULBOSA L.

ONONDAGA Co. : "Cicero Swamp, Beaver Lake and Labrador Bog," *Beauchamp*; East of Syracuse, *F. Bell* (N); *H. D. House*, 1902 (H).

ACHROANTHES MONOPHYLLA (L.) Greene.

ONONDAGA CO. : "Otisco," *Beauchamp*. ONEIDA CO. : Bridgewater (C) ; Taberg, *Peck* (Ann. Rep. 35. 1894).

OPHRYS (Tourn.) L.

Diphyllum Raf. Med. Repos. 5 : 357. 1808 ; fide Kuntze, Rev. Gen. 2 : 659. 1891.

Listera R. Br. ; Ait. Hort. Kew. ed. 2, 5 : 201. 1813. Not *Listera* Adans. 1763.

Distomaea Spenn. Fl. Friburg 1 : 245. 1825.

The following statement regarding the genus *Ophrys* is contributed by Mr. W. F. Wight of the Bureau of Plant Industry, United States Department of Agriculture.

"The genus *Ophrys* as established by Linnaeus in the Species Plantarum (945. 1753) included fifteen species. In the fifth edition of his Genera Plantarum, Linnaeus adopted the genus from Tournefort (Inst. 437. pl. 250. 1700) with a slight change in spelling, Tournefort having written it *Ophris*. The five species included by Tournefort were named by Linnaeus in the Species Plantarum *O. ovata*, *O. lilifolia*, *O. ovata* β , *O. paludosa*, and *O. cordata*, respectively. None of these species belongs to *Ophrys* as generally accepted by modern authors, but the name is retained instead for the last Linnaean species, *O. insectifera*, which Tournefort placed not in *Ophris*, but in *Orchis*.

"The type of *Ophrys* must be one of the five original species placed in this genus by Tournefort and cannot be a species which that author placed in *Orchis*. In accordance with the code of nomenclature proposed (1904) by the Botanical Club of the American Association for the Advancement of Science, the type of *Ophrys* is the first Linnaean species included by Tournefort and also figured by him. This species is *Ophrys ovata*, and the retention of this species as the type of the genus *Ophrys* is a treatment which accords with that of several authors among whom the following are noteworthy :

"SCOPLI, Flora Carniolica 2 : 205. 1772, restricted *Ophrys* to three species, *O. Nidus-Avis*, *O. ovata* and *O. cordata*, and referred *insectifera* to *Orchis*.

"HOFFMANN, Deutschlands Flora 177. 1804, added to Scopoli's species of *Ophrys* a fourth, *O. corallorhiza*, and recognized *Arachnites* published by F. W. Schmidt (Fl. Boem. 1 : 74. 1793) as the name of the genus called *Ophrys* by modern authors.

"TODARO, Nuov. Gen. 12. 1858, discusses the genera *Arachnites* and *Ophrys* and limits the latter to *Ophrys ovata* and its congeners.

"The name *Listera* commonly applied to this genus was published by Robert Brown in 1813 and is a homonym of *Listera* Adanson 1763, proposed for a genus belonging to the family Fabaceae."

The most recent treatment of the genus *Listera* R. Br. is by K. Wiegand (Bull. Torrey Club 26: 157-171. 1899) where all the known species are described and illustrated. The name *Diphyllum* proposed by Rafinesque in 1808 is taken up by Kuntze for this genus, but Thos. Morong (Bull. Torrey Club 20: 29. 1893) shows that it can not be referred with any degree of certainty to *Listera* of R. Brown. *Distomaea* Spenner 1825, is based upon *Ophrys cordata*.

The two species previously reported from central New York are:

OPHRYS CORDATA L. Sp. Pl. 946. 1753.

Listera cordata R. Br.; Ait. Hort. Kew. ed. 2, 5: 201. 1813.

Distomaea cordata Spenn. Fl. Friburg 1: 245. 1826.

ONONDAGA Co.: Syracuse, *Underwood*, 1889 (C.); "Baldwinsville," *Beauchamp*. MADISON Co.: Fenner, *Underwood* (S). Reported by Paine (1865) from Oneida and Herkimer counties.

***Ophrys australis* (Lindl.) House**

Listera australis Lindl. Gen. & Spec. Orch. 456. 1840.

The occurrence of this southern species in central New York is discussed by K. Wiegand in Bull. Torrey Club 26: 159. 1899.

ONONDAGA Co.: Beaver Lake near Baldwinsville, *Beauchamp* (C), *Underwood*, *O. E. Pearce*, 1885. OSWEGO Co.: "Lily Marsh," *J. H. Wibbe*, 1876; *C. S. Sheldon*, 1879.

A third species not previously reported is,*

* Two other species of *Ophrys* are found in the eastern United States:

***Ophrys auriculata* (Wiegand) House**

Listera auriculata Wiegand, Bull. Torrey Club 26: 166. pl. 356. f. 2. 1899.

***Ophrys Smallii* (Wiegand) House**

Listera reniformis Small, Bull. Torrey Club 24: 334. 1897. Not G. Don.

Listera Smallii Wiegand, Bull. Torrey Club 26: 169. pl. 357. f. 7. 1899.

* *Ophrys convallarioides* (Swartz) Wight

Epipactis convallarioides, Swartz, Kongl. Vet. Acad. Handl. II.

21: 232. 1800.

Listera convallarioides Torr. Comp. 320. 1826.

HERKIMER Co.: Cold woods of the higher hills, Newport, House, 1903 (H).

IBIDIUM Salisb. Trans. Hort. Soc. 1: 281. 1812

Aristotelea Lour. Fl. Cochinch. 522. 1790. Not *Aristotela* Adans. 1763.

Gyrostachis Pers. (in text, Syn. 2: 511. 1807); *Gyrostachys* Kuntze, Rev. Gen. 2: 664. 1891.

Spiranthes L. C. Richard Mém. Mus. Paris 4: 42. 1818.

Considerable difference of opinion regarding the generic name of our species of "ladies' tresses" exists among recent American authors. The earliest name, *Orchistraum* Micheli, is taken up by Professor Greene (Manual Bay Reg. Bot. 305. 1894). Kuntze's usage of the name *Gyrostachys* is followed by Britton & Brown (Illus. Flora 1: 470. 1896), Britton's Manual (299. 1901) and by Small (Flora Southeastern U. S. 317. 1903), while the name *Spiranthes* L. C. Rich., in usage prior to these authors, is again taken up by Ames (Orch. 113. 1905).

The name *Gyrostachys* is questionably published in text and no combinations are made by Persoon with this name. Regarding three of his species of *Neottia* (*spiralis*, *aestivalis*, and *tortilis*) Persoon makes this observation after the first:

"Obs. An ob spicam tortilem et labellum crenulatum cum 2-sequentibus, genere distinguenda? (*Gyrostachis*)."

It is quite evident therefore that *Gyrostachis* is not a published genus and under the new code of nomenclature proposed by the Botanical Club of the American Association, cannot be taken up. Were there not an earlier name based upon a well-known species, Richard's name *Spiranthes* (1818) would be the accepted name. The type of *Ibidium* Salisb. (1812) is *I. spirale* Salisb. (*Spiranthes autumnalis* Richard, *S. spiralis* C. Koch), a species congeneric with those of the eastern United States herein treated under the name *Ibidium*.

The following species of *Ibidium* have been reported from central New York, under *Gyrostachys* of my previous list.

Ibidium strictum (Rydb.)

Gyrostachys stricta Rydberg, Fl. Montana 107. 1900. Britton, Manual 299. 1901.

This species, related to the Alaskan *S. Romanzoffiana* Cham., is merged with the latter by Oakes Ames (Orch. 138. 1905).

Ibidium plantagineum (Raf.)

Neottia plantaginea Raf. Am. Monthly Mag. 2: 206. 1818.

Spiranthes plantaginea Torr. 1843. Not Lindl.

S. latifolia Torr., Lindl. 1840.

Gyrostachys latifolia Kuntze. 1891.

G. plantaginea Britton. 1896.

The commonest species of the genus in central New York, occurring in almost every bog and swampy place.

Ibidium cernuum (L.)

Ophrys cernua L. Sp. Pl. 946. 1753.

Spiranthes cernua Rich. 1817.

Gyrostachys cernua Kuntze. 1891.

Common in sphagnum bogs. Specimens examined from Oneida, Madison, Onondaga and Oswego counties.

*** Ibidium ochroleucum** (Rydb.)

Gyrostachys ochroleuca Rydb. Britton, Manual 300. 1901.

This species is reduced to a variety of *cernuum* by Oakes Ames (Orch. 145. 1905); central New York specimens, though very rare, are quite distinct from *cernuum*.

ONONDAGA CO. : near Jamesville, *House*, 1903 (H).

Ibidium gracilis (Bigel.)

Neottia gracilis Bigel. Fl. Bost. ed. 2, 322. 1824.

Gyrostachys gracilis Kuntze. 1891.

This is the *Spiranthes gracilis* of Gray's Manual, but probably not of Beck, which seems referable to *S. Beckii* Lindl., although, according to the citations given, Mr. Ames apparently does not hold this view.

Common in sandy places, especially in Oneida County.

Ibidium vernalis (Engelm. & Gray)

Spiranthes vernalis Engelm. & Gray, Bost. Journ. Nat. Hist. 5: 236. 1845.

Ophrys aestivalis Michx. Not Poir.

Neottia tortilis Muhl. ; Barton ; Elliott.

S. graminea praecox B.S.P. 1888.

S. praecox Wats. 1890.

S. neglecta Ames. 1904.

"*Gyrostachys praecox* Kuntze ;" Britt. & Brown, Illus. Flora 1 : 471. 1896. In part.

Gyrostachys vernalis (Engelm.) Kuntze, 1891 ; Small, 1903.

Mr. Ames gives the range of this species as Massachusetts to Florida, Kansas, Texas and New Mexico. Collected near Oneida, Madison County, *House*, 1902 (Y). (The *Gyrostachys praecox* of my previous list.)

CYTHEREA Salisb. Trans. Hort. Soc. 1 : 301. 1812

Calypso Salisb. Parad. Lond. *pl.* 89. 1806. Not Thouars, Hist.

Veg. Afr. Austr. 1 : 33. *pl.* 6. 1805.

Cytherea bulbosa (L.)

Cypripedium bulbosum L. Sp. Pl. 951. 1753.

Calypso borealis Salisb. Parad. Lond. *pl.* 89. 1806.

Cytherea borealis Salisb. Trans. Hort. Soc. 1 : 301. 1812.

Calypso bulbosa Oakes, Cat. Vermont Pl. 28. 1842.

In proposing a new name (*Cytherea*) for this generic type, Salisbury makes no reference whatever to his previous publication, but it is to be supposed that he did not propose a new name without knowing that his former name was faulty in some respect.

Known in central New York only from "Jordanville, Herkimer Co.," *J. V. Haberer* (N) ; near Rome, Oneida Co., *Bingham* (S.) ; and Tamarack Swamp, near Syracuse, Onondaga Co., *House*, 1905, *no.* 1109 (H).

The previous list of the *Orchidaceae* of Central New York contained 45 species and 2 varieties. The additions made by the present article bring the number up to a total of 52 species and 2 varieties, besides one species regarding which there can be some doubt as to the authentic crediting to the central New York flora.